

Driving the Porsche Touch Wall

Written by Roger Douglas
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As the original media technology provider at the Porsche Museum, the Stuttgart-based consulting and engineering firm **macom** was called in to manage the planning and design of the upgrade project (and take care of RFPs and construction supervision).

The Porsche Museum offers a comprehensive overview of Porsche brand know-how, past and present. More than 80 vehicles and countless small exhibits have been on display at the museum since 2007. After 7 years of operation, the decision was made to expand media technology, adding value to the final stages of the exhibition.

This has been achieved with new AV installations which let visitors immerse themselves interactively in the Porsche brand, adding value for more visitor enjoyment.

Perhaps the biggest highlight of the new installations is the **Porsche Touchwall**, a 12-meter wide video screen with a resolution of no less than 41 megapixels. The wall allows visitors to swipe through 3000+ photos, illustrations, posters, and advertising campaigns, some going back as far as 1931. The archive includes a comprehensive selection of images, including technical data on almost all road vehicles and racing cars that have proudly sported the Porsche logo. The installation is linked directly to a database which houses the unique Porsche archives. New content is automatically imported and displayed every day.

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The touchwall works by using a tracking system (based on cameras and a touch overlay) to respond to visitors' movements. The instant visitors walk past the touchwall, the sensors pick up their image and a virtual curtain comes up, giving access to the world of Porsche images. To navigate their way through the images, visitors use a touch frame. This offers various parallel options for swiping through content by making intuitive multi-touch hand movements. The setup has 20 seamless full HD LCDs, each measuring 55 inches. These are controlled by 5 graphics PCs using 3D real-time software that even allows for functions such as pictures sliding along the entire length of the touchwall.



The other highlight at the museum is an interactive sound installation called **Porsche in the Mix**. This installation allows visitors to browse through a touchscreen and pick a favorite from 7 possible car models. The choice ranges from a Porsche 356 to a Porsche 911 or Porsche 918, and the car they choose is then shown on the huge 9-square-meter LED display, which immediately comes to life with the distinctive sound of its engine. Each car model also comes with its own musical accompaniment.

Visitors can use the touchscreen to select up to 8 sounds from a car, ranging from indicators clicking to doors closing, and these can be integrated into the musical backing with the sound of the engine. All sound bites are based on original Porsche vehicle noises and they can also be illustrated on the LED video wall with movie clips and kinetic animations. The installation has 12 LED sound level indicators hovering in the air to the right and left of the video screen and these move up and down depending on the actual vehicle noise and the volume. Once they have finished, visitors can send their self-composed music track to themselves via email.

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The concept behind the unique multimedia installation was developed by the customer experience agency **Liganova GmbH** from Stuttgart. The project was closely coordinated between macom, the agency, and Porsche to ensure that the challenging concept was realized not only within schedule but also within budget.

The installation also includes two “sound showers” along the side. The feature is called **Start your Engine**

and it invites visitors to play the original engine starting noises of a Porsche RS Spyder, a Porsche Panamera, or a standard Porsche diesel tractor.

There is an “acceleration shower” for visitors to bask in the experience of shooting off in a Porsche 911 2.0 Coupé, a Porsche 935, or a Porsche 911 GT3 RS. Inside the shower, there are original driving pedals and rev counters from the cars. Stepping on the gas produces the corresponding engine noise and an important aspect of this sound is the authenticity of the audio effect, so the software carefully matches individual sound levels to how the user revs on the pedal.

To get this right, the technical experts at the Porsche development center in Weissach were asked to record all of the original engine sounds at different driving speeds and rpm levels. Each sound bite is controlled by the software, which also does an amazing job emulating the real sound of engines for PC games.

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